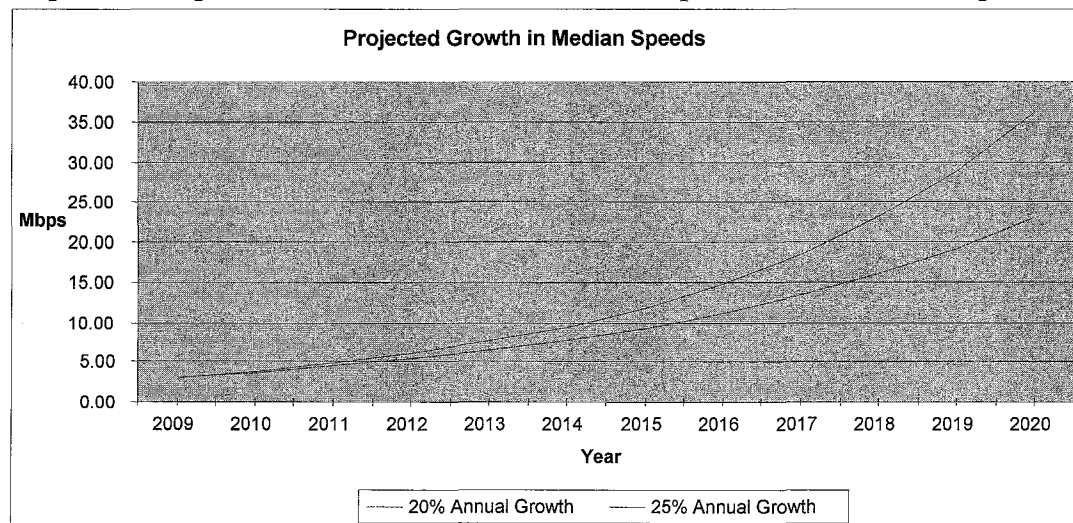


Summary of the Nebraska
Companies' Comments
on the
National Broadband Plan,
the Gap Analysis,
the FCC Model,
and the NOI/NPRM

Summer NARUC Meetings 2010
Sacramento, CA
July 2010

The 4/1 Mbps Standard Will Not Meet Customer Demand and Will Not Result in Comparable Speeds Nationwide

Median actual broadband speeds have been growing exponentially over the past 15 years. Conservatively, if demand increases at a 20% pace, the nation's average rate over the past 15 years, the 2020 median speed will be 23 Mbps. If growth is 25%, in 2020 the median will be 36 Mbps. 4/1 Mbps will be obsolete before the FCC implements even the first phase of the NBP.



The FCC acknowledged that the median users' actual download speed was 3.1 Mbps in June 2009 however the Broadband Gap Paper assumed only 1 Mbps.

“Nielson’s Law” stated that network speeds for high-end home users would increase 50% per year, or double every 21 months. Nielson’s Law proved largely correct over the decade ending in 2007. Speeds in the US are expected to continue to rise at annual rates of 50% or greater as opposed to the conservative growth estimates above. Assuming growth according to Nielson’s law, the 4/1 Mbps proposed standard is below median speeds in mid-2010 and it would be 230 Mbps by 2020.

Compared internationally, the standard is quite conservative when timing differences are considered. According to the NBP, South Korea’s 1 Mbps standard for downloads applied in 2008 and Ireland’s 1 Mbps standard applies this year. Assuming a 25% annual growth rate would produce a 2020 target of 14.5 Mbps and 9.3 Mbps for each country respectively. Similar results apply for Germany and the UK. Finland, a country with approximately half the population density of the U.S., has established a requirement of universal broadband availability of 1 Mbps for 2010 and intends to extend 100 Mbps connections to over 99% of its population by 2015.

Netindex.com reported average speeds as follows from 12/20/09 – 6/20/10:

	Download	Upload
World	7.56 Mbps	2.07 Mbps
United States	9.96 Mbps	2.17 Mbps
Nebraska	8.46 Mbps	1.70 Mbps

LTE as Designed in the Cost to Serve Module will not Meet the 4 Mbps Standard

By comparing wireline technologies that can *always* provide 4/1 Mbps standard service to every customer with wireless access network technologies that can only *sometimes* provide 4/1 Mbps standard service, the analysis inherently favors wireless technologies.

The Busy Hour Offered Load Assumptions are Too Low and the Oversubscription Assumptions are Too High

The Commission found that the expected network demand by typical customers during the busy hour on the average day in 2015 would be 444 kbps. On any day where demand rises above the mean busy hour, the users would not receive 4 Mbps service. An electric power network designed to the equivalent of 444 kbps would have brownouts or blackouts on almost every summer afternoon when peak loads exceed the average day.

However despite the issues discussed above, the FCC did not use a busy hour of 444 kbps, but of 160 kbps, further limiting the likelihood of customers obtaining 4 Mbps. The FCC's analysis demonstrates the inadequacy of its target Busy Hour Offer Load of 160 kbps and the associated oversubscription ratio of 25:1 - the customer only has an 18% chance of getting 4 Mbps.

The LTE Product for 4G Wireless is Not Yet Commercially Deployed and Therefore Embedded Facilities were Estimated

The LTE product for 4G wireless is not yet commercially deployed, and the FCC said "it is conceivable that actual downlink spectral efficiency and, consequently, subscriber capacity differ from that simulated." It is risky to presuppose that an untested technology will succeed, in light of some past experiences with technologies that failed to measure up to expectations.

The model estimated only the incremental investments to provide service to unserved areas. Since the LTE product for 4G wireless is not yet commercially deployed, the FCC established the 4G service map not based on installed facilities, but based on announced deployment plans from major carriers. These plans include Verizon's announced intention to build LTE into 20 to 30 markets in 2010, AT&T's announcement that it will deploy LTE commercially in 2011, and Sprint/Clearwire's announcement that it will cover 120 million people by the end of this year. The 4G facilities service map relied on the resulting "likely extensive" 4G coverage by 2013 in its financial analysis.

It is speculative that 4G will prove commercially viable and that the major companies will serve all the customers identified in the deployment plans and extend coverage further by 2013.

The Major Reasons Why LTE will be Unlikely to Provide Adequate Service

1. Designing LTE for a busy hour load of 160 kbps will only meet the standard at the *least* busy times.
2. Designing for this load factor ignores the top 10% of users or 65% of the load.
3. The technology has not been proven commercially viable.

Wireline Technology is the Better Buy over the Long Term

In the Nebraska areas studied, wireless technology cannot meet the proposed standard at a reasonable cost today and even the FCC acknowledges that in the long term it will not suffice. In addition wireline can be more easily upgraded to meet future demands. Building two networks in rural areas is a waste of limited federal USF and such a course of action will deter future construction of networks adequate to meet future bandwidth needs. It is unrealistic to assume that the wireline network will survive if the Commission chooses to fund wireless networks, in the near term, that are incapable of expansion to meet future growth in demand. At the point the Commission decides that “wireless networks can no longer meet the demands of fixed broadband,” the wireline network may have been abandoned.

Wireline is the Least Cost Option

Vantage Point (VP) studied four Nebraska exchanges operated by Great Plains. The exchanges were selected to reflect the diversity of customer density and other factors typical of rural Nebraska. VP produced both wireline and wireless broadband network designs for these exchanges.

The analysis shows that building a wireless network suitable for customers’ 2015 demand (with a BHOL of 444 kbps and an oversubscription ratio of 9:1) is far more costly than estimated in the NBP. The analysis excludes spectrum cost, which would make the results even more unbalanced. Considering 20-year investment costs, the life cycle analysis shows an even greater wireline advantage. Wireless networks are comparatively dependent on electronics, which depreciate quickly, whereas many wireline assets, like cables and poles, have longer lives. In the four Great Plains exchanges, the table below shows that, wireless is about 2.5 times more expensive over a 20-year period than wireline.

<i>Vantage Point Study – Wireline DSL v. Wireless LTE - 20-year Investment</i>			
Exchange	DSL Wireline at 4/1 Mbps	LTE Wireless at BHOL = 444 Kbps (9:1 Oversubscription)	Wireless Premium Factor
	20-year Investment Per Unserved Location	20-year Investment Per Unserved Location	
Verdigre	\$ 19,500	\$ 33,300	1.7
Stapleton	\$ 12,000	\$ 25,300	2.1
Gordon	\$ 13,600	\$ 24,900	1.8
Imperial	\$ 5,800	\$ 26,300	4.5

A number of model assumptions and inputs favored wireless technology. One such example is that the Model assumes that new towers are only needed 15% of the time. That assumption relies on the ability to locate a cell site on an existing structure such as a grain silo or a church steeple. The chances are far less than even that a wireless carrier in rural Nebraska can find a grain silo or church steeple to which it can attach a needed broadband antenna. An analysis of

actual towers needed, as shown below, cannot be reconciled with the Model's conclusion that new towers are only needed 15% of the time.

<i>Tower Construction For 444 kbps BHOL LTE Service</i>			
Exchange	Required New Sites	New Towers Needed	Percentage New Towers
Verdigre	2	0	0%
Stapleton	7	6	86%
Gordon	20	19	95%
Imperial	19	19	100%
Total	48	44	92%

Reasons Why Wireline Costs are Overstated and Wireless Costs are Understated

1. The Cost-To Serve Module was not granular enough to reflect the capabilities of existing distribution networks therefore it overstated the necessary incremental investment.
2. The model underestimated the number of new towers that would be required.
3. The model assumed an unreasonably low busy hour load factor and an unreasonably high oversubscription rate which underestimated the investment needed.
4. The assumed prevalent use of microwave backhaul is not reasonable.
5. The assumed amount of spectrum is uncommonly large at 2 x 20 MHz and is unlikely to be achieved in most areas.
6. Wireless is more costly to maintain.
7. The derived spectral efficiency assumption appears to be too high.
8. The model assumed limited incremental investment based on 4G facilities being deployed in all announced areas and expanded by 2013.

Support Should be Targeted and Aggregated at the Study Area

Broadband support should be allocated differentially to high cost “targeted” areas (“targeted allocations”). The FCC must then also restrict the way that carriers use support (“targeted uses”) so that the support actually benefits services in the high cost or negative NPV gap areas that generated the support allocation.

The FCC suggested aggregating support at the county level and although the county is not the appropriate aggregation point, some aggregation of support may make sense. The logical aggregation area is the supported carrier’s entire service area, or “study area,” at least during the transition. This reflects current COLR obligations, the current deployment of networks, and the long-term investments made by carriers receiving support today. This approach benefits from economies of scale derived from serving larger areas. This approach would also ensure that each high cost area has at least one broadband POLR that will be a financially viable service provider.

The FCC should eventually calculate support on a targeted basis over a small area, such as a census block or a “Non-Competitive Area” that would be defined by the Commission. This approach would allow for support distributions to be targeted to areas where there is no business case for a broadband POLR to invest in sufficient broadband facilities to meet the FCC’s standard.

When and if the FCC begins distributing support over smaller areas, it must also ensure that providers use that support in the targeted area and meet existing voice COLR obligations, as well as future broadband POLR obligations. In order to meet these obligations providers must receive sufficient support for continued compliance with the duty to serve. The determination of a specific geographic area is necessary otherwise a “duty to serve” is meaningless.

Major Reasons Why it is Not Appropriate to Aggregate Support at the County Level

1. It does not correspond with the deployment of telecommunications or broadband.
2. Investing carriers do not make incremental investment decisions by county.
3. Existing providers of voice and broadband do not have duties to serve that are congruent with county boundaries.
4. No mechanism exists on a county-by-county basis to transfer support from one provider’s lower-cost area to support a higher-cost area served by another provider.
5. County cost averaging (if combined into county service areas) would likely create a patchwork of overlaid service areas resulting in numerous areas where there is simply no provider offering voice or broadband services.

Costs and Revenues Should be Considered in the Calculation of Support

CAF support should be calculated based on a carrier's revenues and costs, but not all unregulated revenues and costs should be considered. The country cannot afford to support video services as necessary universal service.

The revenue calculation should include actual revenues derived from providing broadband Internet service (as well as regulated revenues) based on the rates actually charged times the number of actual subscribers. Using the rates actually charged by carriers is a better approach than using a fixed national "benchmark" value. Income disparities and other demographic factors make a single national figure too inflexible.

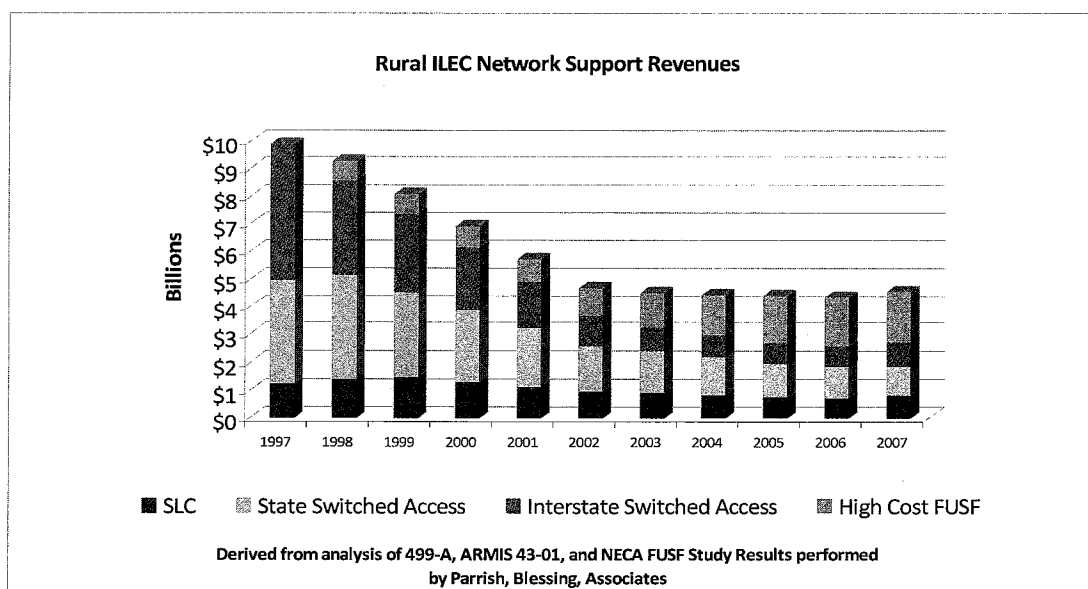
To avoid creating undesirable incentives, however the FCC could investigate whether it is appropriate to have some constraints on the revenue estimate used for the support calculation.

- A minimum or "floor" rate could eliminate the possibility that support would create an incentive to offer extremely low subscriber rates.
- A minimum or "floor" take rate could give carriers a financial incentive to keep take rates at or above that minimum level.

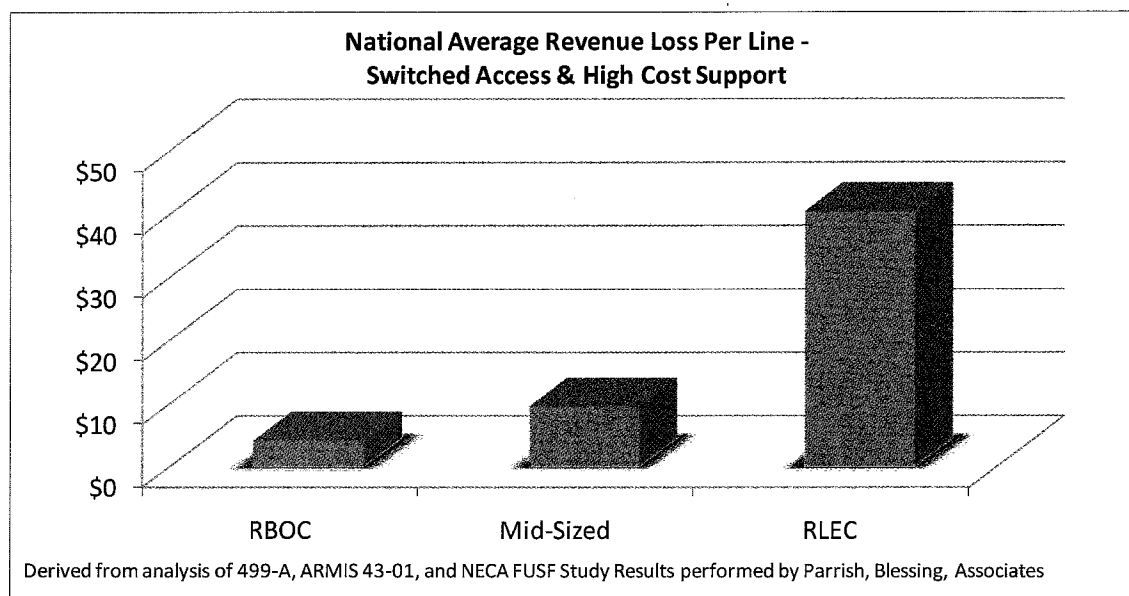
Video revenues should not be included in the support calculation because rural video services generally lose money, primarily due to high programming costs. If the Commission includes video costs and revenues in its support calculation, it will further increase the already significant demands on USF. However, since video services share last-mile facilities with broadband Internet service, the FCC should develop cost allocations to "carve-out" a portion of last-mile costs associated with video.

Existing RLEC Regulated Revenue Sources are Decreasing and End User Rates Cannot Make up the Difference

As shown in the following chart, RLECs have experienced a dramatic decline in network support during the last 10 years.



In rural areas, rates and services will not remain comparable if the revenue loss has to be made up in end user charges. The FCC has proposed that switched access rates be eliminated and that high cost support eventually be transferred to a new program.¹ Such a step would especially impact RLECs, whose per customer network costs are much greater than other carriers. The following chart illustrates how the loss of switched access revenues and USF would affect ILECs, by carrier size. The chart shows that small rural carriers would be severely affected by a loss in switched access and federal high cost support.



¹ We understand that the Commission intends to keep current HCL, LSS, and capped ICLS support in place for seven years; however it is uncertain what level of CAF funding will be available after that seven year period. This seven-year transition period may not, however, be adequate for incumbents to recover the investments made in embedded plant facilities.

The Commission Should Build a New Broadband POLR Policy in Partnership with State Commissions

Since COLR duties evolved primarily under state law, the FCC should gain an understanding of the scope and diversity of existing COLR duties. COLR obligations are diverse and significant; they not only include the duty to serve but include limitations on exiting markets or abandoning services and important carrier-to-carrier duties.

Incumbent LECs have extended lines to a very high proportion of residences and businesses. The voice “duty to serve” currently protects the great majority of the population. The FCC should recognize the important public benefits that federal USF programs have already produced for the existing national telecommunications network. Under current policy, that network has been evolving toward a broadband-capable network that provides quality broadband services in many “served” areas. The current system has achieved a high national subscriber penetration rate. The telephone subscribership rate in the United States in 2009 increased to 95.7%. This penetration rate is the highest penetration rate reported since the Census Bureau began collecting such data in November 1983.

The appropriate relationship between the Commission and the states will be a central issue in the design of a new broadband POLR system. A greater involvement of the states makes sense in terms of the greater local knowledge and resources of state commissions. States have unique access to local facts and circumstances, and are most knowledgeable about the capabilities of existing networks and providers. The FCC is unlikely to achieve its broadband goals without strong support from states, acting in a capacity consistent with their traditional COLR role.

When it comes to enforcing POLR duties, states have stronger incentives than the FCC itself. If an area is unserved or service is interrupted, the state commissions are far more likely to receive complaints from customers, and are far more likely to be motivated to take an active interest in solving the problem.

A sound partnership with the states can also extend the reach of limited federal financial resources. The FCC should consider whether:

- Require that states match federal funding in order to receive grants.
- Support should be reduced if the state does not generate a minimum level of state USF funding for broadband;
- The Commission should create financial or other incentives for states to generate universal service funds as authorized by 47 U.S.C. § 254(f); and
- States or carriers should receive other incentives in return for generating state funds, such as preference in grant programs, more rapid deployment of broadband to unserved areas, lower monthly subscribership rates in high cost areas, or greater control over program administration.

The FCC should design a Broadband POLR Mechanism in partnership with the States before making any funding decisions and should consider leveraging federal support.